REMARKS

Claims 1–4 have been examined. Claims 1 and 3 stand rejected separately under 35 U.S.C. § 102(b) as anticipated by US Patent No. 5,971,355 ("Biegelsen") and as anticipated by US Patent No. 5,836,750 ("Cabuz"); and Claims 2 and 4 stand rejected separately under 35 U.S.C. § 103(a) as unpatentable over Biegelsen in view of US Patent No. 5,452,878 ("Gravesen") and as unpatentable over Cabuz in view of Gravesen. The rejections are respectfully traversed.

Each of independent Claims 1 and 3 requires driving of one or both electrodes, features that are not taught or suggested by either Biegelsen or Cabuz. In particular, Claim 1 requires that "application of a potential difference between the first electrode and the second electrode drives the first electrode and the deflectable ceiling of the flow channel into the flow channel" (emphasis added). This mechanism of operation is illustrated by the structure shown in Fig. 1 of the application and related discussion at page 6, lines 1–8, and is different from the mechanism of operation for either Biegelsen or Cabuz. The Office Action refers to Fig. 10 of Biegelsen as having two electrodes that open and close a valve in response to application of a potential difference (Office Action, page 2). But that embodiment of Biegelsen operates without driving either of the two electrodes into the flow channel as required by the claim. Instead, the valve of Biegelsen operates by constructing the membrane 211 of a magnetically susceptible material and generating an electromagnetic force with the electrodes to drive the membrane (Biegelsen, column 12, lines 32–55).

Similarly, the Office Action cites Cabuz as having two electrodes that provide force on a diaphragm (Office Action, page 2). But Cabuz teaches that the diaphragm 27 be coated with conductive material to respond to actuation of the electrodes as a mechanism for driving the diaphragm (Cabuz, column 5, line 64, through column 6, line 15). It does not teach or suggest that either of the electrodes 23 or 25 be driven into the flow channel as required by the claim. For these reasons, Claim 1 is believed to be patentable over the cited art.

Claim 3 requires that "application of a potential difference between the first electrode and the second electrode drives the first electrode and the second electrode together" (emphasis added). Again, this is a different mechanism for actuating the valve than taught or suggested by either Biegelsen or Cabuz. While those references disclose structure and materials that drive the membrane or diaphragm with electrodes, they fail to teach that the electrodes are driven together upon application of a potential difference between them. For these reasons, Claim 3 is also believed to be patentable over the cited art.

Claims 2 and 4 are believed to be patentable by virtue of their dependence from patentable claims.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-571-4000.

Respectfully submitted,

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